Renewable Energy:
Why do we need Renewable Energy?

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What are Renewable Energies?

Renewable energies include wind and solar energy, biomass, geothermal, water and ocean energy, energy from hydrogen. They are called renewable energies because they are either inexhaustibly available or rapidly renewed.
You have learned about these ways of using energy in the previous factsheets.

The Natural Greenhouse Effect

CO_2 is the chemical formula for the gas carbon dioxide. Plants need carbon dioxide to grow and live. As it occurs in nature, the gas plays an important role in the metabolic processes of many living organisms. But CO_2 is also produced, for example, by volcanic gases.
In the development of the Earth's history, CO_2 is one of the factors that made life on Earth possible in the first place. In the atmosphere it ensured that the Earth did not cool down too much by absorbing infrared light and reducing the radiation of heat supplied by solar energy. On Earth, this natural greenhouse effect means that temperatures are also acceptable at night. In a natural cycle, CO2 is absorbed by the oceans and forests and released again.

CO_2 Emissions and Climate Change?

It is debated whether the high CO_2 emissions actually cause climate change; in any case, global warming is further fuelled by the high CO_2 emissions.

Why Do We Need Renewable Energy?

Conventional energy sources such as coal, natural gas and oil are finite (as energy demand increases). The supplies we use today were created many millions of years ago from dead plants and animals. That is why they are called "fossil" energy sources. Most importantly, burning fossil fuels produces CO2 emissions that harm our climate. Burning wood in large quantities and the associated destruction of tropical rainforests in particular - the green lungs of the earth – is also harmful to the climate.

Renewable energies are needed for climate protection.

The anthropogenic greenhouse effect

While natural CO_2 has no negative impact on the environment, the gas formed by technical / industrial processes is problematic because it cannot be neutralised by nature in such large quantities - the natural balance is destroyed.
More than 80 percent of the high CO_2 emissions worldwide come from the combustion of fossil fuels; they are considered the main cause of the anthropogenic, i.e. man-made, greenhouse effect.

Good Reasons for Using Renewable Energy

- Reduction of CO_2 emissions
- Independence from fossil fuels, which are finite
- No further environmental destruction and pollution through the extraction of fossil fuels
- No further destruction of forests for energy production
- Access to energy also for countries without mineral resources through renewable energy

It is urgently time for the use of renewable energies!
Planet Earth and future generations will thank you for it.

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3 Country Check on Greenhouse Gas Emission and Share of Renewable Energy

Greenhouse Gas* Emissions in Million Tonnes of CO_2 Equivalents

	1990 tonnes	2020 tonnes	Change 1990 – 2020 in %
Greece	103,5	74,8	-27,7
Slovakia	73,5	37,0	-49,6
Spain	290,1	274,7	In 2022-5,3
EU 27 total	4.846,6	3.298,2	-31,9

* In addition to carbon dioxide (CO2), there are other greenhouse gases: methane (CH4), nitrous oxide (N2O) and fluorinated greenhouse gases (F-gases). CO_2-equivalents (CO_2e) are a unit of measurement for standardising the climate impact of the different greenhouse gases.

Source: https://www.umweltbundesamt.de/daten/klima/treibhausgas-emissionen-in-der-europaeischen-

Share of Renewable Energy in 2022 in % (Slovakia 2021)

	2022
Greece	38 %
Slovakia	17,4 %
Spain	45 %
EU total	22 %

Sources: https://de.statista.com/statistik/daten/studie/160935/umfrage/stromerzeugung-nach-energietraegern-in-griechenland/
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https://de.statista.com/statistik/daten/studie/182175/umfrage/struktur-der-bruttostromerzeugung-in-spanien/

Remember

The production of renewable energy also involves the consumption of resources, interference with nature and environmental pollution. Save energy where possible.

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